

REMARKS

Claims 1-22 are pending. Claims 6-8, 10-14, 18, 20 and 21 have been withdrawn. By this Amendment, claims 1, 15 and 22 are amended.

The Office Action rejects claims 1-5, 9, 15-17, 19 and 22 under 35 U.S.C. §102(b) over USP 6,173,569 to Kusada et al. This rejection is respectfully traversed.

Kusada does not disclose a control device for controlling the fuel supply device to perform first a fuel increase process of increasing an amount of the fuel in the combustion chamber from that at a present state, and perform second a fuel supply stop process of stopping supply of the fuel, as a control for preventing deterioration of the catalyst upon stopping the engine as in amended claims 1, 15 and 22, a control device for controlling at least the fuel supply device such that a ratio of fuel in an atmosphere around the catalyst is greater than a ratio of air in the atmosphere, as a control for preventing deterioration of the catalyst upon stopping the engine as in independent claims 9 and 19, and a fuel increase process of increasing an amount of fuel in the combustion chamber from that at a present state upon stopping the engine and a fuel supply stop process of stopping supply of the fuel after the fuel increase process upon stopping the engine, as in independent claim 17.

Instead, Kusada relates to a catalyst deterioration detecting apparatus for an internal combustion engine that aims to improve a precision of the catalyst deterioration detection. In Kusada, the catalyst is exposed to the lean atmosphere to make the catalyst take up and store oxygen up to the limit of the oxygen storing capacity of the catalyst. See e.g., col. 6, lines 26-38. Kusada measures the fuel lean duration T-lean while an air-fuel ratio stays in the lean side (T-lean in Fig. 2, col. 8, line 65 – col. 9, line 1). In Kusada, the fuel supply is cut upon stopping the engine. See e.g., Fig. 2, fuel injection amount during a time period T2 and T3, and col. 5, line 66 – col. 6, line 3. In claims 1, 9, 15, 17, 19 and 22, upon stopping the engine, the aim is not to expose the catalyst to the lean atmosphere under the control of the

control device. First the fuel increase process of increasing an amount of fuel in the combustion chamber is performed. After this, the fuel supply stop process to stop supply of the fuel is performed. Thus, upon stopping the engine the catalyst is not exposed to a lean atmosphere under the control of the control device. As a result, the gas emitted from the combustion chamber becomes fuel rich. Therefore, the catalyst constituting the exhaust gas purification apparatus for purifying the gas is not exposed to a lean atmosphere. Thus, it is possible to effectively prevent the acceleration of catalyst deterioration.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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